

REMARKS

This paper is filed responsive to the Final Office Action mailed March 2, 2011. Claims 16-46 are pending in the application. Claims 1-15 have been canceled.

Claims 16-19, 25-27, 31, 40-43 and 46 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication No. 2002/0010512 ("Takei"). Applicants traverse the rejection.

Claim 16 claims a knee joint prosthesis that includes a tibial component comprising an upper surface, a post extending from the upper surface in a direction extending generally upwardly from the upper surface, the post having a post bearing surface; and a femoral component comprising a medial condyle, a lateral condyle and a cam having a cam surface, wherein (i) the post bearing surface and the cam define a surface area of contact and (ii) the medial condyle and the lateral condyle act against the upper surface, and wherein the surface area of contact increases when the knee flexes to a flex angle greater than 120°.

Claim 40 claims a knee joint prosthesis that includes a tibial component comprising an upper surface, a post extending from the upper surface in a direction extending generally upwardly from the upper surface, the post having a post bearing surface; a femoral component comprising a medial condyle, a lateral condyle and a cam having a cam surface, wherein (i) the post bearing surface and the cam surface define a surface area of contact and (ii) the medial condyle and the lateral condyle contact the upper surface, and wherein the surface area of contact increases when the knee is flexed to an angle greater than 120°.

As is indicated in the underlined portions of independent claims 16 and 40, above, Applicants claim knee joint prostheses having defined surface areas of contact between the post of the tibial component and the cam surface of the femoral component. The defined surface area of contact increases when the knee is flexed to angles greater than 120°.

Takei does not describe, disclose or make obvious at least these elements of the independent claims 16 or 40, nor does it describe, disclose or make obvious the invention

claimed in claims 17-19, 25-27, 31, 41-43 and 46, the claims that depend from independent claims 16 or 40.

Applicants submit that the Examiner has failed to state a *prima facie* case of anticipation. As the Examiner states at page 3 of the Final Office Action, Takei contemplates that its knee flexes to angles greater than 120°. In fact, Takei states at paragraphs 9 and 45 of the publication that the Takei knee flexes to approximately 150°. Takei, however, fails to describe the "surface area of contact" element of either claim 16 or claim 40. To that point, the Examiner simply states: "the surface area of contact increases between the tibial post and the cam of the femoral component at flexion angles greater than 120 degrees compared at least to the surface contact area at full extension (Fig. 3) (Claim 1, 40)." Upon careful review of the Takei publication, including Figure 3 cited by the Examiner, this simply is not the case. In marked contrast, Takei states at paragraph 45:

In concrete terms, the femoral condylar portion 8 rotates relative to the tibial condylar portion 11 while a state in which these portions are in contact is maintained (i.e., while forward movement is restricted). This rotation is performed from a standing position of 0° to a Japanese-style upright sitting position of 150°. Accordingly, the shapes of the cam 14 and rear inclined portion 12d are designed in order to make this possible. Furthermore, contact between the side surface portions 12a of the post 12 and the side inclined surfaces 7a of the pocket 7 is maintained during this rotation, so that a tight movement with the post 12 as a pivot is guaranteed, and so that the contact surface area is increased, thus lowering the surface pressure, so that wear, etc., is reduced.

Accordingly, there are at least two failings of Takei. First, while Takei describes that a *contact surface area* increases during rotation, the *contact surface area* described in Takei is that area of contact between the side surface portion of the post 12a and the side inclined surface of the pocket 7a, and not the claimed "surface area of contact" between the post and cam. The pocket side surfaces 7a of Takei do not form part of the cam (referenced as element 14), and thus an increase in surface area between the pocket side surfaces 7a and the post 12a fails to describe the increase in "surface area of contact". The pocket side surfaces 7a and the cam 14 are described as distinct at paragraph 42:

The side surface portions 12a of the post 12 are in contact with the side inclined surfaces 7a. Furthermore, as seen in from FIG. 3 that is a side view, a funnel-shaped dropping portion 7b is formed in front of the pocket 7, and a **hemispherical cam 14** is formed in the rear side of the dropping portion 7b with a foot portion 7c disposed in a high position interposed.

(emphasis added). Thus, Takei fails to describe the "surface area of contact" claimed in claims 16 and 40. Furthermore, with reference to paragraph 42 above, the contact between the post and cam of Takei is simply described as being "maintained" during the rotation of the knee between 0° and 150°; again, the surface area of contact of those two relevant Takei components is not described as increasing at any point along the continuum between 0° and 150°.

Second, there is no disclosure anywhere in Takei that any surface area of contact, including *contact surface area* between the pocket side surfaces 7a and the post 12a increases specifically when the knee flexes to an angle greater than 120 degrees. Indeed, there is no explanation in Takei of how the surface area of contact increases, or more pointedly that the claimed surface area of contact—the surface area of contact between the post bearing surface and the cam—increases above angles of greater than 120°. The Examiner has not discharged the burden of stating a *prima facie* case of anticipation simply by stating that Takei discloses the claimed element in Figure 3 without further explanation. Such a statement is not sufficient, Applicants do not believe this is the case and, consequently, Applicants request the Examiner to withdraw the rejection.

The Examiner further states with regard to claims 41-43 that "angles at which the femoral and tibial components cooperate and the ratios of contact angles between components of the femoral and tibial components are functional limitations and hold limited patentable weight in the absence of differentiating structure." Applicants disagree with this statement, but will refrain from responding directly on this issue in this paper.

Claims 20-24, 28-30, 32-39, 44 and 45 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Takei in view of U.S. Publication No. 2003/0023314 ("Burstein"). Applicants traverse the rejection.

As described above, Applicants submit that claims 16 and 40 are patentable over Takei. With reference to Applicants' prior submission in this case dated 27 December 2010, the "surface area of contact" limitations described above are also not described in Burstein. As a result, claims 20-24, 28-30, 32-39, 44 and 45 are also patentable at least because they depend ultimately from either claims 16 or 40. Therefore, Applicants seek withdrawal of this rejection as well.

Applicants submit that the application is presently in condition for allowance and request favorable reconsideration and early notice of allowance. The Examiner is encouraged to contact the undersigned attorney by telephone to discuss the claims if doing so would expedite the prosecution of the application.

Respectfully submitted,

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Dated: May 2, 2011